

REPORT
EPIDEMIOLOGY OF VIRAL TRANSFUSION-TRANSMITTED INFECTIONS
IN PEDIATRIC PERUVIAN HEMOPHILIACS.

Hemophiliacs are at high-risk for acquiring transfusion-transmitted infections (TTI) because of the great number of transfusions that they receive. Frequently, they are transfused due to hemarthrosis, muscular hematomas, epistaxis, gingival bleeding or surgical procedures. The frequency and the quantity of the transfused products depend on type of Hemophilia (A or B) and on the severity of the disease.

High prevalences of HBV and HCV infection were found among adult Peruvian multi-transfused patients and were associated with a past history and number of blood transfusions, as well as with past hemodialysis procedures. TTIs continue to represent a significant public health problem in Peru (*Journal of Clinical Virology*, 34, Suppl II, S61-S68, 2005. *Laguna et al*)

Methodology

The objective of the study is to enroll 200 multitransfused children (under 18 years of age) to determine the prevalence and risk factors associated with transfusion-transmitted infections (TTIs) among a sample of multi-transfused hemophiliac pediatric patients in Peru. **Inclusion Criteria:** Patients who have received a total of at least ten units of allogeneic blood or blood components (i.e. whole blood, plasma, red blood cells or platelets) divided in at least two different occasions before the date of their inclusion in the study.

At the Hospital 2 de Mayo in Lima, the volunteers, or their parents are being contacted by trained health professionals and invited to participate. Any patients who are determined to be seropositive for one of the viruses assayed will be referred to their treating physician for standard medical care following the treatment protocols of each institution. When necessary, subjects will be provided with anti-viral therapy as per standard of care.

Sample testing it is being conducted at the NMRC-D-Lima laboratories. Blood samples are being tested for determination of antibodies to HIV, HTLV-I and hepatitis C virus. Hepatitis B surface antigenemia (HBsAg) and total core antibodies for hepatitis B virus (AntiHBc) are also being analysed.

Preliminary results

A total of 20 male hemophilic volunteers were enrolled in the study. The patient ranged in age from 2 to 17 years. Two participants (10.0%) were infected with HCV (TABLE 1) In addition, 3 (15%) participants were AntiHBc positive, all of them IgM negative. Only 3 (15 %) of the participants were vaccinated against HBV. Subjects had received an array of blood products. None of the participants were drug user or have tattoos.

Table 1: Demographic characteristics and transfusion transmitted infections (TTI) of 20 multitransfused patients, Peru, 2007

	Total		HCV		HBsAg(HBV)	HIV	HTLV-I
	Count	%	Count	%	Count	Count	Count
Sex							
Female	0	0.0%	0	0.0%	0	0	0
Male	20	100.0%	2	100.0%	0	0	0
Age					0	0	0
0-5	06	30.0%	0	0.0%	0	0	0
6-10	07	35.0%	0	0.0%	0	0	0
11-15	04	20.0%	0	0.0%	0	0	0
>=16	03	15.0%	02	10.0%	0	0	0
Education level					0	0	0
Pre-school	05	25.0%	0	0.0%	0	0	0
Elementary	11	55.0%	1	05.0%	0	0	0
High school	04	20.0%	1	05.0%	0	0	0
College	00	0.0%	0	0.0%	0	0	0

Conclusions

This study will provide information that will assist the Ministry of Health in developing intervention guidelines to reduce the risk of acquiring transfusion-transmitted infections (TTIs), which continue to be a significant public health problem in Peru.

This week we received 03 more patients and their results will be included in the next report.

Participants not vaccinated against HBV will receive vaccine.

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ACTION	Status	DATES	RESPONSIBLE	
Submission of the amendment to local Hospital		January-March 2007	Principal Investigator-NMRCD	Dos de Mayo IRB
Meeting with the IRB Chairman to present written study report and previous results	Done		Local Investigator Hospital 2 de Mayo	
New assent forms	Done			
New support Letter from PAHO WDC	Done			
Submission new final version of protocol	Done			
Submission of the amendment to NMRCD IRB	Done	April-May 2007	Principal Investigator-NMRCD	NMRCD SRB IRB
Initiation and development of the study	In progress	June –December 2007		Hospital 2 de Mayo
Enrollment process	In progress		NMRCD Team	
Lab analysis			Local Investigator Hospital 2 de Mayo	
First report: the progress report		January 2007	Principal Investigator-NMRCD	Sponsors
Final report:		February 2008	Principal Investigator-NMRCD	Hospital 2 de Mayo NMRCD IRB PAHO
Submission of a manuscript for scientific publication		March 2008	Principal Investigator-NMRCD	International Journal